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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,048	04/01/2004	Jun Koyama	0553-0405	2800

7590 08/25/2004

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CHICAGO, IL 60606

EXAMINER

CHOW, DOON Y

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/816,048	Applicant(s) KOYAMA ET AL.	
	Examiner Dennis-Doon Chow	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-39 is/are allowed.
- 6) ☐ Claim(s) 1-9 and 23-29 is/are rejected.
- 7) ☒ Claim(s) 10-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1-15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 23, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizutani et al. (6614415).

Mizutani discloses an active matrix display device comprising: a display medium interposed between a pair of substrates; a plurality of signal lines and a plurality of scan

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lines, each supported by one of the pair of substrates and intersecting each other; a plurality of pixel electrodes supported by the one of the pair of substrates and arranged in matrix; a counter electrode supported by the other of the pair of substrates and interposing the display medium between the pixel electrodes: a plurality of pairs of memory circuits (105 and 106, Fig. 14), each provided between each of the pixel electrodes and a corresponding one of the signal lines, wherein each pair of memory circuits comprises first memory circuit connected to the corresponding signal line and a second memory circuit connected to the corresponding pixel electrode, and either of two different potentials is supplied to the corresponding pixel electrode depending on a state of the second memory circuit; a plurality of first switches (5, Fig. 14), each connected between a corresponding first memory circuit and a corresponding signal line, which are selectively turned on by a selective signal from a corresponding scan line and which enable to write data on the corresponding signal line to the corresponding first memory circuit; a plurality of second switches (6, Fig. 14), each connected between a corresponding first memory circuit and a corresponding second memory circuit, which enable to transfer data from the corresponding first memory circuit to the corresponding second memory circuit when turned on; at least one transfer control line for supplying a transfer signal which selectively turns the second switches on; and a transfer control line driver circuit for driving the transfer control line. Mizutani further discloses the display device is a liquid crystal display, and the liquid crystal display being able to display gray scale images.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 6-9 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. (6614415).

Mizutani discloses an active matrix display device comprising: a display medium interposed between a pair of substrates; a plurality of signal lines and a plurality of scan lines, each supported by one of the pair of substrates and intersecting each other; a plurality of pixel electrodes supported by the one of the pair of substrates and arranged in matrix; a counter electrode supported by the other of the pair of substrates and interposing the display medium between the pixel electrodes: a plurality of pairs of memory circuits (105 and 106, Fig. 14), each provided between each of the pixel electrodes and a corresponding one of the signal lines, wherein each pair of memory circuits comprises first memory circuit connected to the corresponding signal line and a second memory circuit connected to the corresponding pixel electrode, and either of two different potentials is supplied to the corresponding pixel electrode depending on a state of the second memory circuit; a plurality of first switches (5, Fig. 14), each connected between a corresponding first memory circuit and a corresponding signal line, which are selectively turned on by a selective signal from a corresponding scan line and which

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enable to write data on the corresponding signal line to the corresponding first memory circuit; a plurality of second switches (6, Fig. 14), each connected between a corresponding first memory circuit and a corresponding second memory circuit, which enable to transfer data from the corresponding first memory circuit to the corresponding second memory circuit when turned on; at least one transfer control line for supplying a transfer signal which selectively turns the second switches on; and a transfer control line driver circuit for driving the transfer control line. Mizutani further discloses the display device is a liquid crystal display, and the liquid crystal display being able to display gray scale images.

Mizutani does not explicitly disclose including a plurality of sub-pixels in a single pixel. However, Mizutani discloses the liquid crystal display device comprising a plurality of R, G, and B pixels for displaying color images. It would have been obvious to one of ordinary skill in the art that Mizutani inherently teaches including a plurality of sub-pixels in a single pixel because each R, G and B pixel constitute a single pixel.

Mizutani does not explicitly disclose the control line is arranged substantially parallel to the signal lines or perpendicular to the signal lines. However, it is consider a matter of obvious design choice to arrange the control line substantially parallel to the signal lines or perpendicular to the signal lines because this does not present any unexpected result.

6. Claims 3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al. as applied to claims 1, 2, 4, 6-9 and 23-29 above, and further in view of Kanno (6542139).

Mizutani does not disclose a plurality of latch circuits.

Kanno, in the same display art, discloses a liquid crystal display device comprising a plurality of latch circuits of latching data information.

It would have been obvious to one of ordinary skill in the art to use Kanno's latch circuits in Mizutani's liquid crystal display device because the driver circuit of the liquid crystal display device has to have latch circuits for latching data information before it is send to the screen.

Allowable Subject Matter

7. Claims 10-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 30-39 allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shields (4870396) and McKnight (6225991) teach a liquid crystal display device.


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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Chow
August 21, 2004


DENNIS-DOON CHOW
PRIMARY EXAMINER